

*Amended
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element comprising a movable planar dielectric member of predetermined dielectric constant adjacent the transmission line, the planar dielectric member being provided with three or more discrete interactive dielectric segments extending from at least one edge thereof to moveably overlap the adjacent transmission line, where optimum dimensions of each interactive segment and optimum widths of gaps defined by opposite edges of adjacent segments are determined by computer optimisation means, such that the aggregate reflection of the signals passing through the transmission line is minimised.

On page 4, between lines 16 and 17:

B2 Detailed Description of the Exemplary Embodiments

Page 4, second full paragraph:

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Referring to Figure 1 of the drawings there is shown a planar dielectric element 1 comprising a rectangular body section 2 (see also Figure 2) and five segments, 3, 4, 5, 6 and 7 extending from a major edge of body section 2. The segments are separated by four air gaps 8, 9, 10 and 11. The segments lie in the same plane as the body section. To improve structural rigidity of the dielectric element, the air gaps may be replaced by a dielectric material of a different dielectric constant to that of the material of the dielectric element 1. Alternately, the air gaps may be replaced by thinner portions of the same material as the dielectric element.

Paragraph bridging page 4 and page 5:

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As shown in Figures 3 and 4, dielectric element 1 is slidably mounted and adjacent to the top surface of a PCB distribution element comprising a planar dielectric circuit board 12 supporting a conductive track 13 (see Figure 3) on a first surface 12a thereof. The conductive track and the dielectric circuit board form a transmission line whose distal ends terminate at respective terminals T and B (see Figure 3). The distribution element is supported in a spaced relationship with a conductive ground plane 14. The dielectric circuit board's second surface 12b and the ground plane face one another. Alternately, the second surface of the circuit board and the ground plane can be contiguous (not shown). The movable dielectric element 1 is supported above the first surface 12a of circuit board 12 in a linearly slidable manner by two parallel rods 15, 16 attached to the ground plane. It will be understood that the movable dielectric element 1 will have the effect of varying the phase whether it is adjacent to the first surface 12a or the second surface 12b (see Figure 4), although the phase shift achieved by each arrangement will be different; the movable dielectric element 1 will have a greater effect when adjacent to the second surface 12b, i.e., interposed between surface 12b and the ground plane 14. Also shown in Figure 4 is segment 4.

Page 6, first full paragraph:

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Referring to Figure 6 of the drawings there is shown a second embodiment of the invention for use with a three section antenna array (see Figure 7). This is in contrast to Figure 5 of the drawings which shows a two section antenna array having two terminals T and B and signal input I. The planar dielectric element 17 is provided with segments that extend from

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opposite major edges of the dielectric element's body section. A movable dielectric element 17 is slidably mounted and adjacent to one surface surface of a planar PCB distribution element 18 that supports two conductive tracks 19 and 20. The conductive tracks and the dielectric circuit board form a transmission network for splitting a radio frequency signal applied to a signal input terminal I (see Figure 7) into three paths that terminate respectively in three terminals T, B and C for feeding to the Top (T), Bottom (B) and Center(C) sections of a three section antenna array (see Figure 7). The distribution element 18 is supported in a space relationship with a conductive ground plane 20; the planar dielectric circuit board's other surface and the ground plane facing one another. The movable dielectric element 17 is supported in a linearly slidable manner by two parallel rods 21 and 22 attached to the ground plane 20.

IN THE CLAIMS:

Please cancel claim 15 without prejudice or disclaimer.

Please enter the following amended claims:

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1. (Amended) A phase shifter element arranged to selectively vary the effective dielectric constant of a section of transmission line thereby changing the propagation velocity of said transmission line and varying the phase of signals of desired frequencies or frequency range passing through said transmission line, said phase shifter element comprising a movable planar dielectric member of predetermined dielectric constant adjacent said transmission line, said planar dielectric member being provided with three or more discrete interactive dielectric segments extending from at least one edge thereof to moveably overlap said transmission line,